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## BOOK REVIEW

GRAHAM, LINDA E. 1993. **Origin of Land Plants.** (ISBN 0-471-61527-7, hbk.) John Wiley and Sons, New York. \$89.00. 287 pp. 189 figures.

Linda Graham's entire career had been devoted to research on the origin of embryophytes from algal progenitors. In the *Origin of Land Plants*, she summarizes and synthesizes not only her own outstanding research, but the history of the debate, the pertinent research by other workers, and further unresolved issues. Although anyone would be tempted to bias such a synthesis in favor of one's own favorite hypothesis, she had provided a balanced, almost detached, review of the questions of embryophyte origins.

The first three chapters provide background to the problem of embryophyte origin, including early Paleozoic environments, current research methods being applied, and the consensus that the Charophyceae are the closest algal relatives of land plants. The next three chapters examine the Charophyceae in detail and compare them to land plants. Three more chapters follow with in-depth discussions on the evolution of significant features such as the cytoskeleton, cytokinesis, origin of embryos' sporophytes, nutrient transfer regions, control of meiosis, phytochrome systems, and phenolic biosynthetic pathways. The final chapter recapitulates the ideas presented in the previous chapters.

The book is clearly aimed at advanced undergrads, graduate students and professional botanists. In the final chapter Dr. Graham reveals her hopes that the book (or least that chapter) will be used by authors of introductory texts to update the often mistaken view students have of plant evolution. Certainly I found the book, especially chapters 3, 7, and 10, to be of great help in preparing lectures for an introductory botanical survey course at Southern Methodist University.

The book is a welcomed addition to the modern botanical literature, and I recommend it for every botany professor and college library.—*Roger W. Sanders.*